

CADON  
EV 660  
1987  
C66

**CRITICAL REVIEW OF  
SURFACE WATER QUALITY  
MANAGEMENT POLICIES 1 & 2**

**FOR**

**WATER RESOURCES BRANCH  
ONTARIO MINISTRY OF THE ENVIRONMENT**

**BY**

**GARTNER LEE LIMITED**

**GLL 87-133**

**NOVEMBER, 1987**

**DISTRIBUTION:**

**10 cc    CLIENT  
2 cc    FILE**



Copyright Provisions and Restrictions on Copying:

This Ontario Ministry of the Environment work is protected by Crown copyright (unless otherwise indicated), which is held by the Queen's Printer for Ontario. It may be reproduced for non-commercial purposes if credit is given and Crown copyright is acknowledged.

It may not be reproduced, in all or in part, for any commercial purpose except under a licence from the Queen's Printer for Ontario.

For information on reproducing Government of Ontario works, please contact ServiceOntario Publications at [copyright@ontario.ca](mailto:copyright@ontario.ca)

CASON  
EU 660  
1987  
C66

**CRITICAL REVIEW OF  
SURFACE WATER QUALITY  
MANAGEMENT POLICIES 1 & 2**

**FOR**

**WATER RESOURCES BRANCH  
ONTARIO MINISTRY OF THE ENVIRONMENT**

**BY**

**GARTNER LEE LIMITED**

**GLL 87-133**

**NOVEMBER, 1987**

**DISTRIBUTION:**

<b>10 cc</b>	<b>CLIENT</b>
<b>2 cc</b>	<b>FILE</b>

June 23, 1987

GLL 87133

Ontario Ministry of the Environment  
Water Resources Branch, 4th Floor  
1 St. Clair Avenue West  
Toronto, Ontario  
M4V 1K6

Attention: Mr. Peter Dennis  
MISA Policy Co-ordinator

Dear Peter:

Re: Final Report - Critical Review of Surface Water Quality Management  
Policies 1 and 2 (P.O. 96920)

We are forwarding ten copies of our final report describing approach, findings and recommendations of our critical review of Blue Book Policies 1 and 2. This final version incorporates comments provided at the June 16 meeting with working Group 2.

The study was effective in obtaining opinions on experience with Policies 1 and 2 from a broad cross-section of government, industry and public interest representatives. Weaknesses and strengths of the policies as well as suggestions for their improvement have been provided.

We thank you for the opportunity to be of service in this most interesting and important project.

Yours very truly,

GARTNER LEE LIMITED

D. S. Osmond, B.Sc.,Agr.  
Senior Biologist  
Associate

DSO:ks



## **TABLE OF CONTENTS**

	<b><u>PAGE</u></b>
ACKNOWLEDGEMENTS	(i)
EXECUTIVE SUMMARY	(ii)
1.0 INTRODUCTION	1
1.1 PURPOSE AND SCOPE	1
1.2 STUDY OBJECTIVES	2
1.3 STUDY APPROACH	2
2.0 DESCRIPTION OF RESPONDENTS	8
2.1 GENERAL	8
2.2 FAMILIARITY/KNOWLEDGE OF POLICIES	8
2.3 SIGNIFICANCE TO THE STUDY	9
3.0 MOE RESPONSES	10
3.1 GENERAL	10
3.2 STRENGTHS OF THE POLICIES	10
3.3 WEAKNESSES OF THE POLICIES	11
3.4 EFFECTIVENESS OF POLICIES	12
3.5 EXPERIENCE WITH DEVIATION CLAUSE	13
3.6 APPLICATION OF THE POLICIES	14
3.7 RELATIONSHIP TO OTHER POLICIES/REGULATIONS	15
4.0 NON-MOE RESPONSES	17
4.1 GENERAL	17
4.2 POLICY 1	17
4.3 POLICY 2	18
4.4 APPLICATION	19
4.5 RELATIONSHIP TO OTHER POLICIES/REGULATIONS	20
5.0 EVALUATION OF POLICIES	22
5.1 GENERAL	22
5.2 POLICY STRENGTHS	22
5.3 WEAKNESSES	23
5.4 SUGGESTED IMPROVEMENTS	25
6.0 CONCLUSIONS AND RECOMMENDATIONS	28
6.1 CONCLUSIONS	28
6.2 RECOMMENDATIONS	29

## LIST OF FIGURES

FIGURE 1 STUDY APPROACH	3
FIGURE 2 LIST OF GROUPS CONTACTED AND INTERVIEW DATES (1987)	5
FIGURE 3 PROJECT CHRONOLOGY SUMMARY (1987)	7
FIGURE 4 EVALUATION OF POLICY WEAKNESSES	24
FIGURE 5 EVALUATION OF SUGGESTED IMPROVEMENTS	27

## APPENDICES

APPENDIX A LIST OF CONTACTS/RESPONDENTS

APPENDIX B SAMPLE QUESTIONNAIRES

APPENDIX C COMPLETED QUESTIONNAIRES (Submitted separately)

## **ACKNOWLEDGEMENTS**

A number of people who participated in this study are credited for their important contributions.

First, to all respondents listed in Appendix A who took time out of their busy schedules to make this review possible, a special thanks. Without exception, their manner was cordial, their response was well considered and opinions were candid and incisive.

Next, constructive input from members of MOE's Blue Book Working Group II in interview list and questionnaire development and report review is sincerely appreciated.

Finally, the understanding and cheerful direction provided by the Project Liaison Officer, Mr. Peter Dennis, during extremely busy times is gratefully acknowledged.

**NOTE:** The conclusions and recommendations in this report are those of the authors and do not necessarily represent the views of the Ministry of the Environment.

## **EXECUTIVE SUMMARY**

A critical review of Surface Water Quality Management Policies 1 and 2 in the Ministry of the Environment's "Blue Book" was conducted during the period from February to June, 1987. The objectives of the study are:

- To investigate the effectiveness, strengths and weaknesses of Surface Water Quality Management Policies 1 and 2 and the related implementation procedures in the publication "Water Management ..." (the Blue Book); and
- To identify possible alternatives and improvements to existing policies, and the implications of the policies advanced.

The study involved the preparation of two questionnaires that were administered by one interviewer at 34 interviews. Respondents included representatives of the Ministry of the Environment who implement the policies as well as representatives of related agencies, industries and municipalities and interest groups who are affected by the policies. Responses were evaluated and interpreted to fulfill study objectives.

Strengths of the policies from among several that were identified in Section 5.2 included:

- ease of interpretation;
- promotion of positive results - especially in Policy 1 areas; and
- flexibility

Weaknesses from among over 20 identified in Section 5.3 included:

- inconsistent application;
- policy requirements not adequately defined; and
- little public involvement and awareness.

Many improvements were suggested in Section 5.4 which related mainly to implementation procedures, public involvement and funding support.

The study resulted in the development of several conclusions and recommendations (Chapter 6). Highlights from among these were:

- There is no suggestion that Policies 1 and 2 should be discarded and it appears that most users are attempting to fulfill the broad intent of the policies on a day-to-day basis.
- The most important problem areas relate to:
  - legal status of the Policies, the Deviation Clause and supporting PWQO
  - inconsistencies in the ability to achieve the letter of Policies 1 and 2 owing to overriding biophysical, economic and social differences across the province and across discharger groups
  - too many implementation procedures being left open to interpretation by the users
  - the perception that the intent of Policy 2 (to upgrade to the PWQO) is not being achieved; rather, status quo is the norm
- Maintain the basic objectives of Policies 1 and 2 in a policy statement format but clarify the legal status of the Policies and their links to supporting Acts and Regulations.
- Clarification should be provided on several implementation procedures left open to interpretation to individual surface water managers and proponents. The option of relating requirements to local circumstances should be included.
- The possibility of increased application of the Deviation Clause in Policy 2 should be seriously considered.

## SOMMAIRE

Entre février et juin 1987, on a entrepris une étude critique des politiques 1 et 2 sur la gestion de la qualité des eaux de surface du "livre bleu" du ministère de l'Environnement. Cette étude avait pour but :

- . d'évaluer l'efficacité, les points forts et les points faibles des politiques 1 et 2 sur la gestion de la qualité des eaux de surface, ainsi que des modalités d'exécution contenues dans le document "Water Management..." (le livre bleu);
- . de définir des solutions de rechange ou des améliorations possibles aux politiques existantes et leurs répercussions.

Deux questionnaires ont été préparés pour l'étude, un responsable étant chargé d'en poser les questions à 34 personnes. Les personnes interrogées se composaient de représentants du ministère de l'Environnement chargés de l'exécution des politiques ainsi que de représentants d'organismes, d'industries, de municipalités et d'associations qui ont à utiliser ces politiques. Les réponses ont été évaluées et interprétées de façon à cadrer avec les objectifs de l'étude.

Parmi les points forts des politiques, précisés à la section 5.2, on trouve :

- . la facilité d'interprétation;
- . la promotion de résultats positifs, surtout dans le cas de la politique 1;
- . la souplesse

Parmi plus de 20 points faibles énumérés à la section 5.3, on trouve :

- . les contradictions au niveau de l'exécution;
- . les exigences de la politique mal définies;
- . le manque de participation et d'information du public.

De nombreuses améliorations ont été suggérées à la section 5.4, notamment en ce qui concerne les modalités d'exécution, la participation de la population et l'appui financier.

Les résultats de l'étude ont permis d'élaborer plusieurs conclusions et recommandations (chapitre 6). En voici quelques-unes :

- . Aucune proposition n'a été faite dans le but d'éliminer les politiques 1 et 2, et il semble que la plupart des utilisateurs tentent de se conformer quotidiennement aux objectifs généraux des politiques.
- . Les problèmes les plus importants se rapportent à ce qui suit :
  - l'aspect juridique des politiques, la clause de dérogation et les objectifs provinciaux relatifs à la qualité de l'eau potable;
  - les contradictions quant à la capacité de se conformer, à la lettre, aux politiques 1 et 2, en raison des différences primordiales sur le plan biophysique, économique et social dans la province et dans les groupes effectuant des déversements;
  - l'excès de modalités d'exécution laissées à la libre interprétation des utilisateurs;
  - le sentiment qu'on ne réussit pas à atteindre l'esprit de la politique 2 (conformité aux objectifs

provinciaux relatifs à la qualité de l'eau potable);  
et qu'on se contente du statu quo.

- . Garder les principaux objectifs des politiques 1 et 2 sous forme de déclaration de principe, mais préciser la portée juridique des politiques et leurs liens avec les lois et règlements connexes.
- . Il faudrait préciser plusieurs modalités d'exécution qui sont laissées au bon jugement des directeurs et promoteurs des services des eaux de surface. Il faudrait inclure la possibilité d'adapter les exigences aux circonstances précises.
- . Il faudrait sérieusement prendre en considération la possibilité d'utiliser davantage la clause de dérogation à la politique 2.



## **1.0 INTRODUCTION**

### **1.1 PURPOSE AND SCOPE**

In 1978, the Ministry of the Environment (MOE) introduced its "Blue Book" summarizing water management goals and policies to, in the case of surface water, "...permit the greatest number of uses, based on the best interests of the people of Ontario...".

In support of the surface water goal of ensuring that water quality is satisfactory for aquatic life and recreation, five fundamental policies were established. The five policies deal with waters whose quality is either above or below the objectives, with approaches to establishing effluent requirements, with hazardous substances and with mixing zones. As well, the Blue Book contains a table of water quality objectives for provincial lakes and streams that are designed to protect aquatic life and recreation.

This study was initiated to critically evaluate Policies 1 and 2 and their related implementation procedures to assist Blue Book Working Group II in determining what revisions, if any, should be made to them. Specifically, Policy 1 deals with waters whose quality is better than the Provincial Water Quality Objectives (PWQO) and states that in such areas, water shall be maintained at or above the Objectives. Policy 2 states that where water does not meet the PWQO, it shall not be degraded further and all practical measures shall be taken to upgrade water quality to the Objectives.

The study is timely; first, because the Blue Book has been in effect for over eight years during which time new water quality issues have evolved and second, because it will be important to have surface water management policies in place to reflect impending provincial initiatives in municipal and industrial waste management such as the Municipal-Industrial Strategy for Abatement (MISA) program.

The scope of the study was to obtain a representative sampling of opinion on the two policies from a broad cross-section of discharger groups, government agencies and public interest groups. These opinions were to be reviewed as to the strengths and weaknesses of the policies, to what extent they are being followed and what difficulties

they present to the industrial and municipal sectors. Finally, the review was to assess the adequacy of the policies in protecting high quality waters of the province and preventing further degradation or upgrading waters of poor quality.

Results of the study will be evaluated by Blue Book Working Group II of MOE and considered in developing policies which effectively address surface water quality management issues for the times.

## 1.2 STUDY OBJECTIVES

To achieve the overall study goal of critically evaluating Policies 1 and 2, two study objectives were stated in the Request for Proposal dated January 6, 1987. These were:

- To investigate the effectiveness, strengths and weaknesses of Surface Water Quality Management Policies 1 and 2 and the related implementation procedures in the publications "Water Management ..." (the Blue Book); and
- To identify possible alternatives and improvements to the existing policies, and the implications of the policies advanced.

A spin-off benefit of the study, although not explicitly stated as an objective was the public educational value of the interview-and-questionnaire exercise.

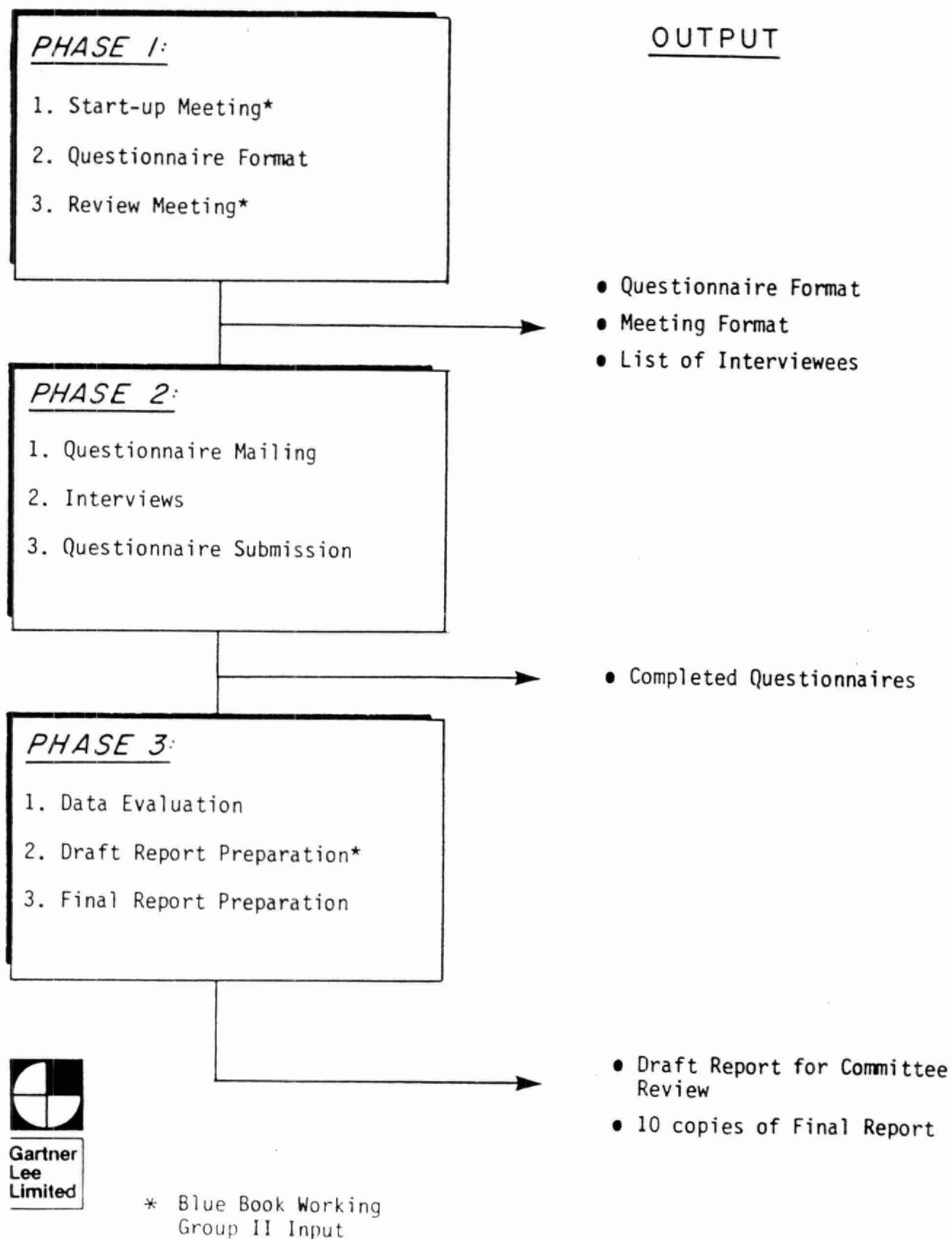
## 1.3 STUDY APPROACH

The general study approach was divided into three phases as illustrated in Figure 1.

Phase 1 involved the development of a list of groups and persons to be contacted and of two questionnaires designed to fulfill the objectives of the study. This list was derived from MOE contacts within the various MISA Sector Groups, from Gartner Lee contacts and from input from the members of Blue Book Working Group II. Generally, the contacts represented various Branches and Regional Offices within MOE, outside government agencies with direct interest in the policies, various industrial and municipal discharger groups and several related public interest groups. Groups

# STUDY APPROACH

FIGURE I



contacted are shown in Figure 2 while a detailed list of contacts is provided in Appendix A.

Two questionnaires were developed. A detailed 11-page version was administered to MOE staff who work routinely with the policies on either a surface water management or pollution abatement basis. For those non-MOE contacts less familiar with the policies and their implementation procedures, a less detailed six-page version was used. Both versions were reviewed by Working Group II and pertinent suggestions incorporated before finalization. Blank copies of sample questionnaires are provided in Appendix B.

Phase 2 involved the arrangement of interviews with the various contacts, advance mailing of the questionnaires and administration of the questionnaire. When the questionnaires were completed by the interviewer, their submission to MOE constituted completion of Phase 2.

Interviews with MOE Regional Offices usually involved the completion of separate questionnaires for one representative of Abatement staff and one from among Technical Support staff. This was augmented by an "Open Forum" discussion involving a mix of MOE staff and sometimes others from related agencies in the region. These discussions dealt largely with general day-to-day procedures for the application of the two policies. Interviews with others were usually conducted at their offices although in some cases, circumstances dictated that telephone interviews were necessary. All interviews were conducted by the same person to assure that similar time, effort and prompting was applied to all contacts. It should be noted that for the industrial sector groups in particular, one spokesperson was designated by the respective association to represent the opinions of the group as a whole. In one case, where a small number of industries made up the association, representatives from each industry completed a questionnaire and submitted it to Gartner Lee Limited directly.

A total of 34 interviews were conducted and five "Open Forum" meetings with MOE staff were held. A summary of groups interviewed and interview dates is provided in Figure 2.

**FIGURE 2 LIST OF GROUPS CONTACTED AND INTERVIEW DATES (1987)**

<u>Ministry of the Environment</u>	<u>Contacted</u>	<u>Mtg. Held</u>	<u>Mtg. to be Confirmed</u>
Northeastern Regional Office (Sudbury)	*	6/3	
Southwestern Regional Office (London)	*	9/3	
Central Regional Office (Toronto)	*	25/3	
West Central Regional Office (Hamilton)	*	17/3	
Southeastern Regional Office (Kingston)	*	24/3	
Northwestern Regional Office (Thunder Bay)	*	12/3	
Water Resources Branch (Toronto)	*	13,16/3	
Environmental Approvals Branch (Toronto)	*	23/3	
<u>Outside Agencies</u>			
Ministry of Natural Resources (Toronto)	*	30/4	
Ministry of Agriculture & Food (Toronto)	*	1/5	
Ministry of Municipal Affairs & Housing (Toronto)	*	1/5	
Ministry of Health	*	25/5	
<u>Discharger Groups</u>			
Ontario Petroleum Association	*		*
Ontario Forest Industry Association	*	22/4	
Canadian Chemical Producers Association	*	4/5	
Ontario Mining Association	*	24/4	
Ontario Waste Management Association	*	13/5	
Canadian Iron & Steel Environmental Association	*	(a)	
Ontario Municipal Engineers Association (Goderich)	*	30/4	
Ontario Hydro (Toronto)	*	8/5	
Lambton Industrial Society (Sarnia)	*		*
Ontario Federation of Agriculture	*	20/5	
<u>Interest Groups</u>			
Federation of Ontario Naturalists	*	8/5	
Greenpeace	*	5/5	
Pollution Probe	*	29/4	
CELA	*	15/5	
Great Lakes United	*	15/5	
Sierra Club of Ontario	*	15/5	

(a) Questionnaires being submitted by various members

Phase 3 was the stage in which feedback from the interviews was evaluated. While some feedback could be analysed on a statistical basis, most involving statements of opinion was reviewed on its own merit. In keeping with the objectives of the study, feedback was evaluated in terms of:

- basis for and intent of the policies;
- application procedures;
- effectiveness, strengths and weaknesses of the policies;
- possible ways to improve the policies; and
- general implications of suggested policy changes.

A draft report was provided to Blue Book Working Group II for review and comment before report finalization.

A summary of the chronology of the study as described is provided in Figure 3.

**FIGURE 3 PROJECT CHRONOLOGY SUMMARY (1987)**

February	2	Project Awarded
	9	Project Initiation Meeting
	11	Submission of Preliminary List of Contacts
	23	Submission of Draft Questionnaire
	25	Working Group II Progress Report Meeting
March	3	Completion of Phase I (Submission of revised Questionnaire)
	6	Commencement of Interviews with MOE
	25	Completion of Interviews with MOE
April	9	Submission of Revised Questionnaire for Others
	22	Commencement of Interviews with Others
	30	Working Group II Progress Report Meeting
May	22	Completion of Phase 2 (Submission of Completed Questionnaires to MOE)
	25	Completion of Interviews with Others
June	5	Submission of the Draft Report
	16	Working Group II Report Review Meeting
	22	Submission of Final Report

## **2.0 DESCRIPTION OF RESPONDENTS**

### **2.1 GENERAL**

To provide a basis for interpreting results of the study, it is valuable to appreciate the variety of backgrounds represented by the various respondents. Although the interests of respondents varied widely, it was interesting that similar ideas often originated from several different response groups.

As well, a review of the respondents' familiarity and knowledge of Policies 1 and 2 provides a measure of how well the policies are known and understood.

In all, 34 questionnaires were completed for a total of 41 respondents. Needless to say, some of the interviews involved more than one person. Open forum meetings with MOE Regional staff involved an additional 39 people.

Seventeen (17) respondents were Ministry of the Environment (MOE) staff; six (6) Regional Technical Support staff, six (6) Regional Abatement staff, three (3) Head Office Approvals staff and two (2) Head Office Water Resources Branch staff. Five (5) questionnaires were completed with staff from outside government agencies, six (6) industrial sector groups were represented and questionnaires were completed for six (6) interest groups.

### **2.2 FAMILIARITY/KNOWLEDGE OF POLICIES**

Response to the 'familiarity' portion of the questionnaire revealed that everyone interviewed from MOE was familiar with Policies 1 and 2 of the Blue Book but that roughly one third of the 'other' respondents were unfamiliar with the policies.

Similarly, Ministry staff generally had a better knowledge of the policies than respondents from outside the Ministry. Most MOE respondents judged their knowledge of the policy as "good" or "fair" while most non-MOE people interviewed judged their knowledge of these as "fair" or "poor". Roughly one in four either didn't know they existed, didn't feel they applied or had not been trained in them. This verifies what was expected, that through day-to-day application through Certificates of



Approval, Control Orders or input to planning/water quality management issues, MOE staff were far more familiar with the policies and their application. While most respondents from industry had knowledge of the policies through Certificates of Approval, experience by other non-MOE respondents was from a range of general policy and impact reviews varying from standard setting to municipal and watershed planning.

### **2.3 SIGNIFICANCE TO THE STUDY**

Owing to this anticipated difference in the knowledge of and experience with the policies, two questionnaires were developed. The questionnaire for MOE respondents was longer, more detailed and geared to the more experienced respondent. While the results of this brief analysis justifies this approach for the majority of non-MOE respondents, some more knowledgeable non-MOE respondents could have completed the more detailed questionnaire. Instead, the interviewer led the questioning into other areas not specifically covered by the shorter version.

Hence, statistical information on strengths and weaknesses of Policies 1 and 2 is available only from MOE respondents. Nonetheless, some non-MOE respondents have provided comments in these areas and these have been incorporated into the evaluation of the policies.

Also, this brief analysis of respondents' familiarity and knowledge of Policies 1 and 2 indicates that the Blue Book is not widely understood or not even known by some of those who are directly or indirectly affected by it on a regular basis.

### 3.0 MOE RESPONSES

#### 3.1 GENERAL

Prior to reporting responses of MOE respondents, it is important to put the timing of this review into context. First, the Blue Book has been in effect for over eight years and this has allowed staff time to overcome problems of interpretation of the policies and develop a good comfort level with their application of them. Procedures have been developed within each Region and Head Office Branch to work within the intent of the Blue Book. Hence, after what could be considered a slow start, the effects of the policies have only been felt relatively recently (past 4 to 5 years). Even now, changes are being made in the Certificate of Approval mechanisms to aid in achieving the intent of the Policies.

Second, water quality management in the province is now going through a rapid change associated with the impending Municipal Industrial Strategy for Abatement (MISA) program. This has somewhat influenced questionnaire responses.

A common thread through all MOE responses was the desire to work toward the intent of Policies 1 and 2, that being to protect areas of high water quality and to upgrade areas of poor water quality. While this may not have always been achieved by the letter of the Blue Book, it did fulfill the basic surface water quality management objectives of the province.

#### 3.2 STRENGTHS OF THE POLICIES

Several criteria for judging policy strength were suggested. These included:

- ease of interpretation;
- degree to which it promotes positive results;
- flexibility
- ease of application; and
- lack of complexity

While all received support, the most popular criteria were the first two for both policies. It should be noted, however, that Policy 1 was regarded as easier to interpret than Policy 2 and it received more support for promoting positive results.

Other important strengths of the policies that were mentioned included:

- they specifically address the receiving water body;
- they are consistent with supporting Acts & Regulations;
- through the Blue Book, they are easily communicated to municipalities and industries.

### 3.3 WEAKNESSES OF THE POLICIES

Suggested criteria against which to judge weakness of the policies included:

- difficulty of interpretation;
- inadequacy in extent of application;
- lack of flexibility;
- ineffectiveness in forcing positive results;
- degree of complexity;
- inadequacy in definition of policy requirements; and
- lack of provision for reserve capacity (Policy 1)

Based on responses, the most obvious and highly ranked weaknesses were:

1. Policy requirements were not adequately defined;
2. Policies were inadequately applied
3. Lack of specific provision for reserve capacity (Policy 1); and
4. Policy 2 was difficult to interpret.

Important suggestions of weaknesses provided by the respondents themselves included:

- no built-in accountability
- no training for Abatement staff

- apparent support of degrading by allowing deviation in Policy 2
- conflict with other MOE policies e.g.,chlorinate to achieve bacti levels; don't chlorinate to save fish
- too little on procedures in Blue Book
- no provision for abating a problem without achieving 100% of the objectives.

Since difficulties in interpretation had historically occurred particularly with Policy 2, an attempt was made in the questionnaire to determine the main source of this weakness. The most difficulty in interpretation centered around:

1. determining what constitutes a violation of policy; and
2. knowing where to apply on the receiving stream, defining data base requirements and what constitutes "surface water".

Suggestions of how to overcome these difficulties of interpretation varied substantially regarding what constitutes a violation, what data base is required to designate Policy 1 and 2 and to what types of water bodies the policies should be applied. However, there was unanimous support for the application of Policies 1 and 2 to both point and nonpoint sources and for considering uses of surface waters in applying the policies. Further details on suggestions to overcome difficulties will be addressed in Chapter 5.4 (Suggested Improvements).

### 3.4 EFFECTIVENESS OF POLICIES

Policies 1 and 2 were assessed as to their effectiveness in achieving the overall goals of maintaining water quality where it is better than PWQO (Policy 1) and upgrading water quality where it doesn't meet the PWQO (Policy 2). As well, Policy 2 was assessed as to its effectiveness in preventing overuse of the Deviation Clause. A large majority of MOE respondents agreed that the policies were effective in maintaining water quality where it is better than objectives and in preventing overuse of the Deviation Clause. However, opinion was split on the effectiveness of Policy 2 in upgrading water quality where it doesn't achieve PWQO. Many thought that status quo was being maintained

but often no improvement was occurring. As well, almost all of the MOE respondents felt that the policies were not effective in nonpoint source situations.

Reasons for shortcomings in the effectiveness of the policies were not explicitly requested but suggestions for improving policy effectiveness were solicited. Again the majority of respondents felt the policies would be more effective if:

- MOE defined what constitutes a violation;
- areas were designated where water quality should not be sacrificed at all;
- programs and timetables were established for improving Policy 2 areas; and
- guidelines for 'design' receiver streamflows were standardized.

There was some support for combining the policies into one ("if good protect; if poor, upgrade") but most respondents felt that the policies should remain separated.

### 3.5 EXPERIENCE WITH DEVIATION CLAUSE

The Deviation Clause of Policy 2 is an attempt to acknowledge and deal directly with areas where water quality does not meet Objectives and where the intent of Policy 2 may not apply.

Most MOE staff interviewed had experience with attempts to apply the Deviation Clause. Roughly 15 situations were cited although many had only been discussed and not dealt with formally. Many examples dealt with municipal sewage treatment facilities although three or four industries and a landfill site had considered following the route of a deviation from Policy 2.

Of the 15 deviations considered, two appear to have been successful, one was thought to have been successful and five STPs were considered approved under terms of the Deviation Clause. No records of the deviations from Policy 2 were obtained to validate the reported numbers.

Attempts for deviation were based mainly on the first and third justifications for considering a deviation from Policy 2 as stated in the Blue Book. These dealt with:

- PWQO not attainable because of natural background water quality, and
- to attain or maintain PWQO would result in substantial and widespread adverse economic and social impact.

Four each dealt with the remaining factors (not attainable because of man-induced conditions or because suitable treatment techniques were not available). Of interest was the fact that attempts for deviations were made on factors not indicated in the Blue Book such as:

- no significant environmental consequences
- total environmental impact worse than exceeding the objectives
- municipal drain receiver
- inadequate funds for treatment to achieve the PWQO.

Most respondents felt that Policy 2 as presently described does not result in an appropriate number of requested or approved deviations. There was a range of opinions on the reason for and consequences of increased use of the Deviation clause. Some respondents felt that deviations from Policy 2 have to be acknowledged and that the clause should be maintained. Others stated that there is some reluctance to use the clause as it could be construed as giving permission to pollute. Yet others felt that, if the clause were followed verbatim, too many applications would result in increased workload.

### 3.6 APPLICATION OF THE POLICIES

The primary vehicle of application of Policies 1 and 2 is through the Certificate of Approval although they are applied to a lesser extent through Control Orders, nonpoint source reviews and planning reviews. Policies 1 and 2 are most commonly applied to sewage treatment plant and industrial discharges as well as fish hatcheries. They are not often applied in landfill situations. Most often, Abatement staff request input from

Technical Support staff on major surface water quality management issues although in minor situations, Abatement staff will use their own judgement.

Opinion was split regarding whether Policies 1 and 2 are applied on a consistent basis. Common sense often dictates policy application depending upon the relative impact, the parameters involved and whether best practical treatment is being used. While mixing zones (Policy 5) have been modified to overcome Policy 1 and 2 problems, conditions acutely toxic to fish are not tolerated. In some cases, reasonable attempts are made to minimize the impact of the undertaking while not necessarily achieving the requirements of Policy 2 to the letter. In other cases, no effort is made to upgrade discharges to Policy 2 areas since a Certificate of Approval does not have to be changed (e.g., if STP does not have to be expanded). Finally, time does not always permit the fair dealing with Policy 2 and an "end-of-pipe" Certificate of Approval is prepared.

There seems to be a variety of ways of dealing with applications for Deviations from Policy 2. In most cases, the proponent is asked to submit his justification for a Deviation and this is reviewed by Regional Technical Support and Abatement staff. If accepted, 'Memos of Agreement' are developed for signature by the Approvals, Water Resources Branch and Regional Directors. In other cases, the proponent must submit details on the absolute best treatment option and then negotiate with the Region what is practical.

### 3.7 RELATIONSHIP TO OTHER POLICIES/REGULATIONS

A number of opinions were offered regarding effects of policy application as it relates to other Policies, Acts and Regulations.

Regarding enforcement, some MOE respondents felt that the legislative status of Policies 1 & 2 was unclear. There is no reference in the Blue Book directly linking the Policies to the Ontario Water Resources Act nor the Environmental Protection Act. Only by incorporating the Policies into effluent requirements as specified in the Certificate of Approval, is an indirect link with the OWR Act achieved. As well, it was felt that deviations from Policy 2 required a better defined legal status. One respondent

mentioned that the Environmental Protection Act Hearing decision of which he was aware had overruled the Policies presumably by not requiring adherence to them.

Application of the policies to nonpoint source situations may be difficult since MOE does not regulate agricultural land use practices and does not commonly apply surface water quality policies to storm water runoff. At present, the storm water runoff control focus is on flows and is regulated largely by the local conservation authority. It was mentioned that the Model Storm Water By-Law will ask for an exemption from Blue Book policies and water quality objectives.

MOE "end-of-pipe" requirements for conventional parameters create confusion to both municipalities and industry. One respondent expressed similar confusion when he cited an example of "....one Branch of the Ministry allowing up to 25 ppb PCBs in road oil but another allowing 0 ppb in the receiving waters!...." Accords with other Ministries must be reviewed to ensure that they are compatible with the policies.

Opinions regarding the impact of MISA on the policies varied from "....it will make the Blue Book obsolete ...." to "....the water quality track will need the Blue Book for support ....". One fear is that "....MISA will make MOE enforcers - not water managers...."



## **4.0 NON-MOE RESPONSES**

### **4.1 GENERAL**

Responses from other government agencies, industrial sectors and interest groups were varied but more often than not, there was agreement on basic issues.

While non-MOE respondents were not always intimately familiar with the Policies 1 and 2, they were well qualified to discuss how the policies affect their interests.

### **4.2 POLICY 1**

There was an even split among respondents as to whether Policy 1 should apply in all cases. However, the majority felt that where water quality is better than PWQO, it should not be allowed to be reduced to the objectives.

Some felt that we must pay the price to achieve the intent of Policy 1 and that we have to preserve Policy 1 areas so that we have a measure of high water quality to serve as a standard for comparison purposes. Others felt that decisions to protect high water quality areas should depend on use and value of receiving water on a larger ecological context in the area. Reduction to PWQO should be considered on a case-by-case basis. Where you can effectively control discharges to such areas, do so; where you can't, do the best you can.

One respondent felt that a weakness in Policy 1 at present is that there is no non-degradation provision; however, in practice, many Regions apply such a provision on a case-by-case basis depending on water use considerations. Another weakness encountered was that the policy forces a "dilution is the solution" approach to water quality management by directing proponents to discharge into streams of high streamflow regardless of consideration of relative ecological values. Finally, capacity sharing should be recognized in Policy 1 areas and the possibility of lowering to the PWQO is not always acknowledged by MOE.

Most respondents (but not all) thought that waste treatment technology is available to achieve Policy 1 for treated liquid municipal and industrial waste discharges. On the

other hand, most didn't feel such technology was available for nonpoint urban and rural drainage.

#### 4.3 POLICY 2

Non-MOE respondents were evenly split on whether application of Policy 2 as stated is warranted in all cases. Those supporting application at all times did so with practical qualifications such as:

- need for upgrading should be confirmed with proper scientific justification;
- monitoring for compliance should occur as well;
- the public should be informed annually of Policy 2 areas;

Those opposing blanket application felt that:

- where the benefits of Policy application are not significant, there is no need to apply;
- where surface waters are used solely for waste water assimilation and conveyance, these should be acknowledged.

None of the respondents had direct experience in application of the Deviation Clause and indeed few knew about it. Some felt that the "background water quality" factor for exclusion was the only justification for granting a deviation from Policy 2. Others disagreed with the Deviation Clause in any form suggesting it was legalizing surface water quality degradation. Yet others felt that a proper assessment before granting a deviation should include:

- an evaluation of "total environment consequences" backed up by a proper risk assessment;
- a consideration of short versus long-term impacts and accept that rehabilitation can and does occur;
- an assessment of the significance of a Policy 2 parameter in a local area and its significance relative to other uncontrollable sources

- an assessment of the significance of a Policy 2 parameter in a local area and its significance relative to other uncontrollable sources

Virtually all respondents felt that Policy 2 should apply to municipal and industrial point sources and urban and rural nonpoint sources. One respondent added that Policy 2 should be applied to landfills as well.

Non-MOE respondents were unanimous in their opinion that Policy 2 is not applied uniformly across the province nor across the various discharger categories. Reasons for this opinion included:

- no policy is applied uniformly across the province and shouldn't be owing to economic, biophysical, use and social factors;
- application depends on how good the negotiators are;
- municipal sewage treatment plants have poor control over sewer discharges and are treated more leniently;
- depends on whether plant is old (and deviation has to be granted until retrofitting) or new (no deviation granted).

#### 4.4 APPLICATION

Although no direct questions regarding application mechanisms were included in the questionnaire, several respondents volunteered opinions.

One industrial sector group representative indicated that most often its discharges are dealt with in the context of Policies 3 and 5 rather than Policies 1 and 2. To avoid using the Deviation Clause, industry is often successful in applying a "Best Available Treatment and Monitor" philosophy. Also, some perceive that Head Office sometimes rules negatively on proposals that would otherwise be approved by Regional staff who are familiar with local conditions.

Municipalities are often confused regarding the relationship between sewage treatment plant design and operations guidelines and receiving water policies. While plants are designed for average or normal operating conditions, Policies 1 and 2 required

achieving PWQO even under "exceptional" circumstances. To treat to such exceptional circumstances is considered uneconomical. Another municipal concern related to the legal status of the Policies and whether they are backed by Cabinet. Politicians have some difficulty explaining to taxpayers reasons for tax increases related to proposed sewage facilities as a result of policies that are not legislated. Related to this point, municipal engineers like to know if the Blue Book has been applied and what implementation guidelines have been followed.

One provincial government agency indicated that Ontario was now in a "trade-off" period of policy application and that Policies 1 and 2 did not appear to operate on an "integrated resource use" policy which recognizes that in some circumstances, principal uses must be protected, sometimes at the expense of not achieving a conflicting policy. No single policy should dictate the degree and type of development in an area but should be applied in the context of related policies. Conversely, the same agency was of the opinion that Policies 1 and 2 failed to adequately protect for example, high quality areas for trout by allocating "water quality units" to support other uses as well.

Non-MOE respondents felt that Policies 1 and 2 were not brought to bear on urban drainage and water quality is not addressed in non-point source drainage reviews.

#### 4.5 RELATIONSHIP TO OTHER POLICIES/REGULATIONS

Relationship of Policies 1 and 2 to other policies was partly addressed in the previous chapter. This chapter largely concentrates on other MOE policies - mainly those found in the Blue Book.

Several comments were offered by non-MOE respondents on the Provincial Water Quality Objectives found in Tables 1, 2 and 3 of the Blue Book. Concerns related to:

- whether objectives were scientifically derived taking into account such aspects as metal speciation and receiving water characteristics;
- lack of explanation in the Blue Book;
- the fact that no objectives exist for many parameters; need has outpaced science's ability to properly set objectives;

- how reasonable were the numbers with a heavy safety factor built in;
- proper standards being applied for each medium to minimize trading off one medium against another;
- how MOE's radionuclide objectives relate to Federal and International requirements;
- applying objectives that have little significance to local land uses and water uses;
- their legal status (objectives - not standards);
- treating all objectives in the same way regardless of their impact significance.

With regard to mixing zone policy (#5) respondents suggested that mixing zones were acceptable for "soft" degradable or insignificant parameters but not for persistent contaminants. Others suggested that the mixing zone policy was too complicated and should be simplified. The opinion that a discharger can't do much better than best available treatment was reiterated. The mixing zone derived would be dictated by the best treatment that could be applied to the waste stream in question.

There was only one comment on the impact of MISA on Policies 1 and 2. "....the MISA philosophy was already implied in the Blue Book; the program is merely politicizing it...."

## 5.0 EVALUATION OF POLICIES

### 5.1 GENERAL

While strengths, weaknesses, etc. of Policies 1 and 2 have been reported in Chapters 3 and 4, no effort has been made to distill them to allow building on strengths and to focus on legitimate issues. As well, consideration of suggested improvements is required.

### 5.2 POLICY STRENGTHS

Perhaps the greatest strengths of Policies 1 and 2 are their fundamental objectives of *protecting areas of high water quality* and *upgrading areas of poor water quality*. From virtually all quarters, there was active support of these basic policy intentions. Other strengths that warrant consideration are:

- ease of interpretation (especially for Policy 1);
- promotion of positive results (especially Policy 1);
- flexibility;
- ease of application;
- lack of complexity;
- specifically addresses quality of surface water bodies;
- consistent with supporting Acts;
- Blue Book facilitates communication outside MOE;
- effective in preventing overuse of Deviation Clause (almost to a fault!)
- geared to surface water management - not enforcement;
- supportive of MISA principles.

Any recommended changes in the policies and their application should be weighed against these strengths to ensure that the policies are not weakened by eroding what makes them strong.

### 5.3 WEAKNESSES

A number of perceived weaknesses have been identified and while many may be warranted, others may not. Many respondents may be unfamiliar with procedures that are available and which may be applied routinely to address their concerns.

Therefore, an attempt has been made to flag legitimate concerns and to screen out those that:

- conflict with basic policy objectives;
- are trivial or regarded as rare exceptions; and
- historically may have been improperly handled but are now being dealt with adequately.

Further, if perceived weaknesses do not fall within these three categories and are regarded as legitimate issues, they have been further subdivided into weaknesses:

- that could be dealt with by modifying the existing policy framework; or
- where new policies could be considered.

The results of this screening exercise are provided in Figure 4. It evaluates some 28 perceived weaknesses and screens out nine. Ten of the weaknesses can probably be dealt with in the existing policy framework of the Blue Book. New policies may have to be considered for the remaining nine.

Those that can probably be dealt with in the existing policy framework are:

- policy requirements not adequately defined
- inadequate extent of application
- no training for Abatement staff
- too little on procedures
- legal status unclear
- inconsistent application
- Policy 2 difficult to interpret

FIGURE 4 EVALUATION OF POLICY WEAKNESSES

WEAKNESS	EVALUATION FACTORS				
	CONFLICTS	RARE	DEALT WITH	LEGITIMATE	ISSUE
	WITH POLICY OBJECTIVES	EXCEPTION	ADEQUATELY NOW	DEAL WITHIN EXISTING FRAMEWORK	CONSIDER NEW POLICY
A. GENERAL :					
. Policy requirements not adequately defined				x	
. Inadequate extent of application				x	
. No built-in accountability					x
. No training for Abatement staff				x	
. Conflict with other MOE policies		x			
. Too little on procedures				x	
. No consideration of water use					x
. Ineffective in nonpoint situations					x
. Legal status unclear				x	
. Inconsistent applicaion				x	
. Inflexible considering outside interest/policies					x
B. POLICY 1 :					
. No non-degradation provision					x
. No specific provision for reserve capacity			x		
C. POLICY 2 :					
. Forces 'dilution is solution' approach			x		
. Difficult to interpret				x	
. No provision for partial abatement					x
. Little upgrading-mainly status quo				x	
. Need scientific justification for upgrading		x			
. No timetable to upgrade			x		
. No consideration of net environmental benefits	x				
. No acknowledgement of waste assimilation areas	x				
. Inadequate use of Deviation Clause				x	
. No assessment of total environmental consequences					x
. No consideration of short-term impacts	x				
. No consideration of rehabilitation					x
. Not applied uniformly				x	
. Inadequate monitoring for compliance			x		
. No public knowledge of Policy 2 areas					x



- little upgrading - mainly status quo
- inadequate use of Deviation Clause
- Policy 2 not applied uniformly

Those for which new policies may have to be considered are:

- built-in accountability
- consideration of water use
- ineffective in non-point situations
- inflexible considering outside interests/policies
- non-degradation provision
- provision for partial abatement
- assessment of "total environmental consequences"
- consideration of rehabilitation potential
- public knowledge of Policy 2 areas

#### 5.4 SUGGESTED IMPROVEMENTS

Both MOE and non-MOE respondents provided constructive input on ways to improve Policies 1 and 2. This section consolidates inputs and lists potential benefits of suggested inputs.

It is interesting to note that many suggestions were common to both MOE and non-MOE sources. Suggestions have been divided into three main categories - funding, public involvement and procedures. All suggestions had at least one beneficial aspect and it was difficult to screen any out; rather, each has been evaluated as to their anticipated benefits as follows:

- value to overcome inconsistent application
- improved public awareness
- supportive of the intent of the Policies
- flexibility
- minimize policy conflicts
- conforms with normal practice

Suggestions and anticipated benefits are provided in Figure 5.

In summary, there appears to be good justification for considering:

1. Funding support to overcome inconsistent policy application as a result of ~~various~~ differences in economy of scale or difficult situations imposed by the biophysical setting; and to generate data for compliance with the policies.
2. Improved Public Involvement
  - to help deal with difficult socioeconomic considerations; and
  - to gain a better understanding of water management issues in the Province.
3. Revised Implementation Procedures
  - that will make application of the policies more consistent yet minimizing conflicts with other policies.

FIGURE 5 EVALUATION OF SUGGESTED IMPROVEMENTS

SUGGESTED IMPROVEMENTS	ANTICIPATED BENEFITS					
	OVERCOME	BETTER	SUPPORTS	FLEXIBILITY	MINIMIZE	NORMAL
	INCONSISTENT APPLICATION	PUBLIC AWARENESS	INTENT OF POLICY		POLICY CONFLICTS	PRACTICE
A. FUNDING						
. to support resolution of difficult situations	x		x			
. to generate data for compliance	x					
B. PUBLIC INVOLVEMENT						
. input to applications for Deviations	x	x				
. input to Objective Standard setting		x				
. public education		x				
. open houses for developing terms of Certificates of Approval		x				
C. PROCEDURES						
. incorporate mitigation/compensation rehabilitation policy			x	x	x	
. improve public awareness of Blue Book		x	x			
. introduce public audit system	x	x	x			
. consider short-term use interruption	x				x	x
. train Abatement in Policy application	x					
. classify and manage surface waters according to their biological and social values		x		x		
. use risk analysis in dealing with difficult decisions				x	x	
. bring all policies together that deal with surface water management					x	
. apply external set of values so that all industry has same pass-through costs for environmental protection	x		x			
. define violation	x		x			
. define pristine areas		x	x			
. define design streamflows	x					

## **6.0 CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 CONCLUSIONS**

A number of general conclusions have been developed based on the results of the interview and review process. These are:

1. The study is judged to have been successful in obtaining a representative opinion of administrators and users of Policies 1 and 2. It involved 34 responses from a broad cross-section of government, industry and public interest groups.
2. There is no suggestion that Policies 1 and 2 should be discarded and it appears that most users are attempting to fulfill the broad intent of the policies on a day-to-day basis.
3. Most non-MOE respondents are either unfamiliar with the Policies or have poor to fair knowledge of them.
4. Policy strengths outlined in Section 5.2 should be considered in the process of assessing potential changes in policies.
5. A number of weaknesses in Policy application and effectiveness have been identified in Section 5.3. Many can probably be addressed by improving implementation procedures in the existing policy framework, while new policies may have to be considered to address other weaknesses.
6. The most important problem areas relate to:
  - legal status of the Policies, the Deviation Clause and supporting PWQO
  - inconsistencies in the ability to achieve the letter of Policies 1 and 2 owing to overriding biophysical, economic and social differences across the province and across discharger groups
  - too many implementation procedures being left open to interpretation by the users.

- the perception that the intent of Policy 2 (to upgrade to the PWQO) is not being achieved; rather, status quo is the norm
- the fact that there is no publicly known audit of the effectiveness of the Policies to allow management-by-results.

## 6.2 RECOMMENDATIONS

The following recommendations have been developed to address these major study conclusions:

1. *Maintain the basic objectives of Policies 1 and 2 in a policy statement format but clarify the legal status of the Policies and their links to supporting Acts and Regulations.*

This will clarify and/or strengthen legal status of the Policies yet retain the strength of policy flexibility. As one respondent advised, MOE should move forward with improved policies".... rather than flogging Regulations that are inflexibly interpreted...."

2. *A funding mechanism should be developed to subsidize uniform application of the Policies which may otherwise be sacrificed owing to local economic or biophysical conditions.*

In many parts of the province, it is more expensive to meet PWQO owing to natural surface water quality conditions, the physical setting and/or smaller tax bases to support high levels of treatment that are sometimes required. Examples of such funding could be in the form of municipal grants to provide high quality effluents at STPs where receivers are particularly sensitive; grants to industry where the natural setting makes compliance with the Policies by normal practices, virtually impossible.

3. *Clarification should be provided on the implementation procedures left open to interpretation to individual surface water managers and proponents which often results in inconsistent application. The option of relating requirements to local circumstances should be included.*

There is confusion associated with the definition of violation, what constitutes a water body, data base requirements, where to apply on the receiver, (chapter 3) and this leads to inconsistent application of policy.

4. *A review of related policies within MOE and other Ministries should be conducted to minimize conflicts and confusion through the inflexible application of Policies 1 and 2.*

While some MOE policies dealing with dischargers apply to average (normal) conditions, Policies 1 and 2 are often applied using exceptional (abnormal) conditions. As well, application of Policies 1 and 2 can conflict with policies of other Ministries and should not necessarily be dominant over them. Policy application should be considered in the context of other policies.

5. *For Policy 1 situations, new policies should be considered to deal specifically with non-degradation areas and the issue of reserve capacity.*

While in practice, most regions try to protect particularly sensitive areas of high water quality, no specific provision for such an action is described in the Blue Book. Similarly, rather than allocating the entire capacity of a water body to be reduced to the Objectives by one proponent, provision for "reserve capacity" would allow the possibility of other proponents to discharge to the same receiver.

6. *A mechanism for assigning programs and timetables to upgrade Policy 2 areas to the Objectives should be developed and applied.*

This would encourage fulfillment of the objectives of Policy 2 and result in improved effectiveness. While enforcement of this recommendation for point sources could be most effectively achieved through Certificates of Approval, program development and priority setting for both point and nonpoint sources could probably be most effectively implemented through an integrated watershed management and planning exercise.

7. *Related to #6, a mechanism should be developed to monitor for compliance and to make public, Policy 2 areas.*

This assumes that MOE will retain the role of an "auditor of the environment" and that industry will regard compliance monitoring as part of the cost of doing business in Ontario. Publication of Policy 2 areas will allow a public audit of the Policy.

8. *The possibility of increased application of the Deviation Clause in Policy 2 should be carefully considered.*

At present, the Deviation Clause appears to be avoided and has rarely been successfully applied in the eight years of the life of the Blue Book. It is a useful and reasonable policy that has a legitimate application depending on circumstances. Additional justifications for deviations such as "total" environmental consequences of achieving Policy 2 may have to be considered.

9. *Consideration should be given to developing a Policy 1 and 2 assessment approach which addresses impact significance in terms of parameters involved, sensitivity of the receiver, use considerations and best available and practical treatment for the case-in-point.*

This allows a reasonable interpretation of surface water quality management policy without having to be inflexibly tied to numbers.

10. *Categorization and speciation of contaminants according to impact significance and hence degree of policy application should be considered.*

Some conservative parameters whose widespread occurrence in the environment at levels above the PWQO has no evident adverse effect on aquatic life nor recreation may not require as stringent application of the policies as other reactive and toxic parameters.

11. *Application of Policies 1 and 2 to nonpoint urban and rural sources should be considered.*

This recommendation may prove difficult in presently developed areas in that source control and treatment is often impractical and jurisdiction lies outside MOE. While the present MISA program has been developed to deal with point source discharges, the need for a similar initiative to deal with nonpoint sources should be recognized.

12. *A mechanism for involving the public in surface water quality management policy application should be considered.*

Often, difficult Policy 1 and 2 issues such as Deviations from Policy 2, non-compliance and terms of Certificates of Approval require societal input to deal with trade-offs. Public awareness of and input to such issues is often valuable.

13. *Consideration should be given to the establishment of a surface water classification system that would involve the development of realistically attainable surface water objectives reflecting water uses, physical setting and predominant land uses.*

Such a system would still embody the philosophies of Policies 1 and 2 and would minimize conflicts with other agencies, facilitate public documentation and compliance and reduce the need for the Deviation Clause. If applied on a watershed management and pollution significance basis, programs could be established for mitigation and upgrading to a higher classification level.



## **APPENDIX A**

### **LIST OF CONTACTS/RESPONDENTS**

Northeastern Regional Office  
Ministry of the Environment,  
199 Larch St., 11th Floor,  
Sudbury, Ontario.  
P3E 5P9

\* Mr. Nels Conroy, Manager,  
Abatement East

\* Mr. Claude Lafrance, Chief,  
Approvals and Planning

Mr. Bill Keller

Mr. Eric Smith

Mr. Gerry Myslik

Technical Support

Ms. Jan Linquist

Mr. Art Roy

Mr. Jim Fry

Mr. John Wesno

Abatement

Mr. Brad Bowman

Southwestern Regional Office,  
Ministry of the Environment,  
985 Adelaide St. S.,  
London, Ontario.  
N6E 1V3

\* Mr. Denis Veal, Chief,  
Water Resources Assessment Unit

\* Mr. Kal Haniff, District Officer,  
Chemical Valley (Sarnia)

Mr. Doug Huber

Mr. Stewart Thornley

Technical Support

Mr. Jim Janse

Mr. John Longworth

Mr. Ron Drynau

Mr. Doug Matheson

Abatement

Mr. Arnie Clark

Mr. Wayne Wager

Detroit/St. Clair/St. Mary's

Rivers Improvement Project

Mr. Norm Smith

Ministry of Natural Resources

Mr. Hugh Martin

Ministry of Agriculture & Food

Northwestern Regional Office,  
Ministry of the Environment  
435 James St., S.,  
Box 5000,  
Thunder Bay, "F" Ontario.  
P7C 5G6

\* Mr. Jim Murphy, Senior Environmental Officer  
Abatement

\* Mr. Don Murray, Environmental Officer  
Abatement

\* Mr. Len Maki, Biologist,  
Water Resources Assessment Unit

\* Mr. Jake Vander Wal, Chief,  
Water Resources Assessment Unit

Southeastern Regional Office,  
Ministry of the Environment,  
133 Dalton Ave.,  
Kingston, Ontario.  
K7K 6C2

\* Mr. Barry Burns, Surface Water Engineer,  
Technical Support Section

\* Mr. Dan Cook, Environmental Officer,  
Abatement Section

Mr. Dick Worthington

Mr. J. Stinson                      Abatement

Mr. John Allen

Mr. Jim Lauder

Mr. Bruce Metcalf

Mr. Ted Reeves                      Technical Support

Mr. David Dillenbeck

West Central Regional Office  
Ministry of the Environment,  
Ellen Fairclough Building  
P.O. Box 2112,  
119 King St., W., 12th Floor,

Hamilton, Ontario.

L8N 3Z9

\* Mr. Stan Irwin, Chief  
Water Resources Assessment Unit

\* Mr. Bruce Creamer, District Officer,  
Haldimand-Norfolk/Brant District Office

Mr. Hardy Wong, West Central Region

Mr. Mike Caranci, Abatement

Mr. John Vogt,

Mr. Ray Stewart

Mr. Dale Henry Technical Support

Mr. Arch McLarty

Central Regional Office,  
Ministry of the Environment,  
7 Overlea Blvd.  
4th Floor,  
Toronto, Ontario.  
M4H 1A8

\* Ms. Jan Beaver, Acting Coordinator  
Environmental Response Group

\* Mr. Gary Boretski, Senior Environmental Officer,  
Central Regional Office

Mr. George Mierzynski, Director, Central Region

Mr. R. Shaw

Mr. Kim Chu Ying Technical Support

Mr. Dave Beach

Mr. Don Pirie

Mr. Russ Boyd

Abatement

Ms. Ann van Warmerdam

Mr. John Mills

Water Resources Branch  
Ministry of the Environment,  
4th Floor,  
1 St. Clair Ave., W.,  
Toronto, Ontario.  
M4V 1K6

\* Mr. J.A. Ralston, Manager,  
Aquatic Biology Section

\* Mr. Yousry Hamdy, Acting Manager,  
Great Lakes Section

Environmental Approvals and Land Use  
Planning Branch,  
Ministry of the Environment,  
135 St. Clair Ave. W.,  
Toronto, Ontario.  
M4V 1P5

\* Mr. Bob Cornelius, Consultant, Industrial Wastewater and Air Pollution  
Control

\* Mr. Lawrence Wilcox, Senior Approvals Engineer, Waste Sites and Systems  
Approvals Unit

\* Mr. I. Kulnieks, Supervisor, Central and Southeast Environmental Approvals  
Section

Ministry of Agriculture and Food,  
801 Bay St.,  
8th Floor,  
Toronto, Ontario.  
M7A 2B2

\* Mr. John Johnston, Manager, Drainage and Water Management

Ministry of Housing,  
Plans Administration Branch,  
777 Bay St.,  
14th Floor,  
Toronto, Ontario.  
M5G 2E6

\* Mr. Les Fincham, Director, Plans Administration Branch, Central and  
Southwest

Ministry of Natural Resources,  
Policy and Planning Secretariat,  
Room 6440,  
Whitney Block  
99 Wellesley St. W.,  
Toronto, Ontario.  
M7A 1W3

\* Mr. Larry Douglas, Director, Policy and Planning Secretariat

\* Mr. Tom Farrell, Coordinator, Planning Systems, Conservation Authorities  
Section

\* Dr. Douglas Dodge, Supervisor, Environmental Dynamics Section

Ministry of Health,  
15 Overlea Blvd.,  
5th Floor,  
Toronto, Ontario.  
M4H 1A9

\* Dr. Lesbia Smith, Senior Medical Consultant Disease Control and  
Epidemiology Services

Canadian Chemical Producers' Association,  
c/o 163 Church Ave.,  
Willowdale, Ontario.  
M2H 4G4

\* Mr. Peter Budzik, Peter J. Budzik and Associates Inc.

Canadian Environmental Law Association,  
243 Queen St. W.,  
Toronto, Ontario.  
M5V 1Z4

\* Ms Toby Vigod, Director

Federation of Ontario Naturalists,  
355 Lesmill Road,  
Don Mills, Ontario.



M3B 2W8

\* Mr. Don Huff, Environmental Consultant, Director

Great Lakes United,  
342 Queen St. W.,  
Toronto, Ontario.  
M5V 1Z4

\* Ms. Sarah Miller, Coordinator

Greenpeace,  
Trinity - St. Paul's United Church,  
427 Bloor St. W.,  
Toronto, Ontario  
M5S 1X7

\* Ms. Joyce McLean

Municipal Engineers' Association,  
c/o Regional Municipality of Niagara,  
2201 St. David's Road,  
P.O. Box 1042,  
Thorold, Ontario.  
L2V 4T7

\* Mr. Mel Holenski, Deputy Director,  
Engineering Services

Ontario Federation of Agriculture,  
c/o R.R. #5,  
Simcoe, Ontario.  
M34 4K4

\* Mr. Richard Walker, Chairman,  
Standing Committee of the Environment

Ontario Forest Industry Association,  
c/o Abitibi Price Inc.,  
Sheridan Park,  
Mississauga, Ontario.  
L5K 1A9

\* Mr. Brian Young, Manager,  
Environmental Control

Ontario Hydro,  
595 Bay St.,  
2nd Floor,  
Toronto, Ontario  
M5G 1X6

\* Mr. Paul Wiancko, Technical Superintendent, Environmental Technical and  
Station Services

\* Ms. Judith Ryan, Superintendent, Environmental Protection

Ontario Mining Association,  
c/o Noranda Inc.,  
Suite 900,  
4 King St. W.,  
Toronto, Ontario.  
M5H 3X2

\* Ms. Maxine Wiber, Environmental Scientist

\* Dr. John Sparling, Consultant, Ontario Mining Association

Pollution Probe,  
c/o Ecology House,  
12 Madison Ave.,  
3rd Floor,  
Toronto, Ontario.  
M5R 2S1

\* Mr. Kai Millyard

Sierra Club of Ontario,  
Ste 303,  
229 College St.,  
Toronto, Ontario.  
M5T 1R4

\* Mr. Ron Burchell, Chair

\* Mr. Michael McLaughlin, Environmental Engineer

Ontario Waste Management Association,  
c/o Tricil (Sarnia) Ltd.,  
89 Queensway W.,  
Mississauga, Ontario.  
L5B 2V2

\* Mr. Bob Redhead, Vice-Chairman  
Ontario Waste Management Association

**APPENDIX B**

**SAMPLE QUESTIONNAIRES**

**POLICY 1 AND 2 REVIEW**  
**QUESTIONNAIRE**

**PART I - GENERAL**

A. Date \_\_\_\_\_

Location \_\_\_\_\_

Interviewer \_\_\_\_\_

B. CONTACT GROUP

☐ MOE \_\_\_\_\_  
\_\_\_\_\_

☐ Outside Agency \_\_\_\_\_  
\_\_\_\_\_

☐ Industrial Sector \_\_\_\_\_  
\_\_\_\_\_

☐ Interest Group \_\_\_\_\_  
\_\_\_\_\_

C. RESPONDENT

Name \_\_\_\_\_

Title \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Phone \_\_\_\_\_

PART II - FAMILIARITY WITH POLICIES

A. Are you familiar with MOE's surface water Policies 1 and/or 2?

☐ Yes ☐ No

B. YOUR KNOWLEDGE OF POLICY

1. POLICY 1 and related implementation procedures.

☐ Good  
☐ Fair  
☐ Poor

2. POLICY 2 and related implementation procedures.

☐ Good  
☐ Fair  
☐ Poor

3. Policy on "...deviations from POLICY 2..." in the Policy Manual.

☐ Good  
☐ Fair  
☐ Poor

4. Situations in which you deal with POLICY 1 and 2 on a routine basis

POLICY 1 ☐ Certificate of Approval \_\_\_\_\_

☐ Control Order \_\_\_\_\_

☐ Nonpoint source \_\_\_\_\_

☐ Planning and Other \_\_\_\_\_



POLICY 2 O Certificate of Approval \_\_\_\_\_

0 Control Order \_\_\_\_\_

☐ Nonpoint source \_\_\_\_\_

O Planning and Other \_\_\_\_\_

### C. EXPERIENCE WITH POLICY

1. POLICY 1

- ☐ A lot (weekly/monthly application)
- ☐ Some (once or twice a year)
- ☐ None

## 2. POLICY 2

- ☐ A lot (weekly/monthly application)  
☐ Some (once or twice a year)  
☐ None

3. What factors influence your involvement in the POLICIES?

	YES	NO
- not my job	<input type="radio"/>	<input type="radio"/>
- unclear policy guidelines	<input type="radio"/>	<input type="radio"/>
- creates difficulties	<input type="radio"/>	<input type="radio"/>
- inadequate data base	<input type="radio"/>	<input type="radio"/>
- insufficient training	<input type="radio"/>	<input type="radio"/>
- other		

4. Is application of POLICY 1 and 2 carried out on a consistent basis?

YES  
☐

NO  
☐

Please explain: \_\_\_\_\_

---

---

---

---

5. a) Have you had experience in attempts for deviations from POLICY 2?

☐ Yes  
☐ No

How many? \_\_\_\_\_

- b) If yes, how many attempts have been successful?

\_\_\_\_\_

- c) What were the bases for attempts for deviation?

☐ PWQO not attainable because of background water quality

☐ PWQO not attainable because of irreversible man-induced conditions

☐ to achieve PWQO would cause widespread adverse economic and social impact

☐ suitable treatment techniques not available

☐ Other \_\_\_\_\_

---

---

- d) How did you deal with attempts for deviations from POLICY 2?

---

---

---

---

---

- e) Please comment on whether you feel that the implementation of POLICY 2 as presently defined, results in an appropriate number of requested/approved deviations?

---

---

---

---

PART III- POLICY EVALUATION

A. STRENGTHS:

1. What do you regard as the strengths of POLICY 1 and 2?

POLICY 1      POLICY 2

- |                       |                       |  |
|-----------------------|-----------------------|--|
| <input type="radio"/> | <input type="radio"/> | Ease of interpretation                       |
| <input type="radio"/> | <input type="radio"/> | Degree to which it promotes positive results |
| <input type="radio"/> | <input type="radio"/> | Flexibility                                  |
| <input type="radio"/> | <input type="radio"/> | Ease of application                          |
| <input type="radio"/> | <input type="radio"/> | Lack of complexity                           |
| <input type="radio"/> | <input type="radio"/> | Other _____                                  |

---



---

2. Please elaborate, through examples, on those factors that you feel add strength to the policies.

---



---



---



---



---



---

3. Are the policies equally effective for both point source and nonpoint source applications?

	POLICY 1	POLICY 2
yes	<input type="radio"/>	<input type="radio"/>
no	<input type="radio"/>	<input type="radio"/>

4. If no, why not?

---



---



---

B. WEAKNESSES:

1. What do you regard as the weaknesses of POLICIES 1 and 2? Please rank from 1 to 5 (decreasing order of weakness), the following suggestions:

POLICY 1	POLICY 2	
----------	----------	--

- |                       |                       |   |
|-----------------------|-----------------------|---|
| <input type="radio"/> | <input type="radio"/> | Difficulty of interpretation                    |
| <input type="radio"/> | <input type="radio"/> | Inadequate extent of application                |
| <input type="radio"/> | <input type="radio"/> | Lack of flexibility                             |
| <input type="radio"/> | <input type="radio"/> | Ineffective in forcing positive results         |
| <input type="radio"/> | <input type="radio"/> | Degree of complexity                            |
| <input type="radio"/> | <input type="radio"/> | Policy requirements not adequately defined      |
| <input type="radio"/> | <input type="radio"/> | Lack of specific provision for reserve capacity |
| <input type="radio"/> | <input type="radio"/> | Other _____                                     |

---



---

2. Regarding difficulties in interpretation, please rank the following list in order of decreasing degree of difficulty from 1 (most difficult) to 5 (least difficult).

- ☐ Knowing where to apply
- ☐ Inadequate definition of data base to designate if Policy 1 or 2 for pertinent parameters
- ☐ Inadequate guidelines to describe what constitutes violation
- ☐ Difficulty in defining what constitutes a surface water body
- ☐ Difficulty with "concentration" versus "loading" concept
- ☐ Inadequate consideration of water use
- ☐ Application consistent for all sector groups?
- ☐ Other \_\_\_\_\_

---



---

3. Please provide your suggestions of ways to overcome these difficulties. As a guide,

- a) What do you regard as an adequate data base for POLICY 1 and 2 designation? (number of samples, tests; duration of preop monitoring, water use inventory, etc.)

---



---



---

- b) What constitutes a water quality violation in your opinion? (Consider frequency, latitude above and below objective, etc)

---

---

---

- c) Are there any types of surface waters in which POLICIES 1 and 2 should not apply? If so, which ones?

---

---

---

- d) Are/should all source types (Point and Nonpoint) be subject to POLICY 1 and 2? Briefly state your thoughts.

---

---

---

- e) Do/would you consider existing or potential receiving water use in applying the policies? How?

---

---

---

- f) Other: \_\_\_\_\_

---

---

C. EFFECTIVENESS:

1. Do you regard the existing POLICY 1 and 2 procedures as effective in fulfilling the following objectives:

	YES	NO
- Maintaining water quality in areas where quality achieves PWQO?	<input type="radio"/>	<input type="radio"/>
- Upgrading water quality in areas where quality exceeds PWQO?	<input type="radio"/>	<input type="radio"/>
- preventing misuse of the deviation clause?	<input type="radio"/>	<input type="radio"/>

Please elaborate: \_\_\_\_\_

---



---



---

2. a) In your opinion, are the policies equally effective in "point source" and nonpoint source" situations?

Yes ☐ No ☐

- b) Please explain your response \_\_\_\_\_

---



---



---

3. Indicate if any of the following may make the policies more effective:

- |    |  |                              |                             |
|----|--|------------------------------|-----------------------------|
| a) | Quantify what constitutes violation (eg. exceedance more than 5% of time, monthly average levels, etc) | YES<br><input type="radio"/> | NO<br><input type="radio"/> |
|----|--|------------------------------|-----------------------------|

Comments: \_\_\_\_\_

- |    |   |                       |                       |
|----|---|-----------------------|-----------------------|
| b) | Designation of areas where existing water quality should not be sacrificed at all | <input type="radio"/> | <input type="radio"/> |
|----|---|-----------------------|-----------------------|
- Comments: \_\_\_\_\_

- |    |  |                              |                             |
|----|--|------------------------------|-----------------------------|
| c) | Establish programs and timetables<br>for improving POLICY 2 areas<br>Comments: _____ | <input type="radio"/>        | <input type="radio"/>       |
| d) | Standardize guidelines for "design"<br>receiver streamflows<br>Comments: _____       | YES<br><input type="radio"/> | NO<br><input type="radio"/> |
| e) | Combine POLICY 1 and 2 into a single<br>policy.<br>Comments: _____                   | <input type="radio"/>        | <input type="radio"/>       |
| f) | Other: _____<br>_____<br>_____<br>_____  |                              |                             |



- We are interested in your experience (positive and negative) with the policies and how you feel their wording, application and intent could be improved.

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. On the right side, there is a vertical margin line, creating a narrow right-hand margin. The paper appears to be from a notebook or a standard ruled document.

**POLICY 1 AND 2 REVIEW**  
**QUESTIONNAIRE (B)**

**PART I - GENERAL**

A. Date \_\_\_\_\_

Location \_\_\_\_\_

Interviewer \_\_\_\_\_

B. CONTACT GROUP

O MOE \_\_\_\_\_

O Outside Agency \_\_\_\_\_

O Industrial Sector \_\_\_\_\_

O Interest Group \_\_\_\_\_

C. RESPONDENT

Name \_\_\_\_\_

Title \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

**PART II - FAMILIARITY WITH POLICIES**

A. Are you familiar with MOE's surface water Policies 1 and/or 2?

☐ Yes                      ☐ No

B. If you are not familiar with surface water POLICIES 1 and 2, please indicate the reason(s)

- ☐ Didn't know they existed
- ☐ Beyond the scope of my job
- ☐ Do not feel they are applied because no one has drawn them to my attention
- ☐ Insufficient training
- ☐ Other \_\_\_\_\_

---

---

---

C. YOUR KNOWLEDGE OF POLICY

1. POLICY 1 and related implementation procedures.

- ☐ Good
- ☐ Fair
- ☐ Poor

2. POLICY 2 and related implementation procedures.

- ☐ Good
- ☐ Fair
- ☐ Poor

3. Policy on "...deviations from POLICY 2..." in the Policy Manual.

- ☐ Good
- ☐ Fair
- ☐ Poor

4. Situations in which you deal with POLICY 1 and 2 (eg. Certificates of Approval, Control Orders, Planning for new waste treatment facilities etc.)

---

---

---

---

---

PART III - POLICY 1

A. POLICY 1 is designed to maintain surface water quality in locations where quality is presently better than Provincial Water Quality Objectives (PWQO)

1. Do you feel that application of this policy is warranted in all cases?

O YES O NO

2. If you feel that exceptions to this policy may be warranted, please indicate what situation(s) may justify exception to the policy.

3. Do you feel that where water quality is better than PWQO, it should be allowed to be reduced to the PWQO?

O YES O NO

Please explain your response: \_\_\_\_\_

4. Do you feel that waste treatment technology is economically achievable to fulfill the intent of Policy 1 in the following situations:

	YES	NO
- Municipal sewage treatment plant discharges	<input type="radio"/>	<input type="radio"/>
- Industrial liquid waste treatment plant discharges	<input type="radio"/>	<input type="radio"/>
- Urban drainage	<input type="radio"/>	<input type="radio"/>
- Rural drainage	<input type="radio"/>	<input type="radio"/>
- Other	<input type="radio"/>	<input type="radio"/>

PART IV - POLICY 2

A. POLICY 2 is designed to upgrade surface water quality in locations where water quality presently does not meet PWQO. As well in Policy 2 areas where new or expanded discharges are proposed, no further degradation will be permitted. However, deviations from Policy 2 may be allowed where:

- water quality is naturally poorer than PWQO;
- water quality does not attain PWQO because of irreversible conditions caused by man;
- to attain or maintain PWQO would cause adverse economic and social impact; or
- no suitable treatment techniques are available.

1. Do you feel that this policy is warranted in all cases?

☐ YES ☐ NO

Please explain your response \_\_\_\_\_

---

---

---

---

---

2. a) Do you have experience with application of the deviation clause in POLICY 2?

☐ YES ☐ NO

b) If yes, under which condition of the deviation clause have you had experience?

---

---

---

c) In your opinion, are there any other reasons which may justify a deviation from POLICY 2?

---

---

---

3. Please indicate if you feel that POLICY 2 should apply to the following situations:

	YES	NO
- Municipal sewage treatment plant discharges	<input type="radio"/>	<input type="radio"/>
- Industrial liquid waste treatment plant discharges	<input type="radio"/>	<input type="radio"/>
- Urban drainage	<input type="radio"/>	<input type="radio"/>
- Rural drainage	<input type="radio"/>	<input type="radio"/>
- Other	<input type="radio"/>	<input type="radio"/>

---

---

4. In your opinion, is POLICY 2 applied uniformly across the province and across the various discharger groups/categories?

---

---

---

---

---

---

---

## PART V - ADDITIONAL COMMENTS

- A. Please add any comments relevant to POLICIES 1 and 2 that were not addressed in the questionnaire.

We are interested in your experience (positive and negative) with the policies and how you feel their wording, application and intent could be improved.

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

ONTARIO



\*96936000008141\*

CR

[illegible]

CAT. No. 23-115      PRINTED IN U. S. A.